

TRANSACTIONS OF THE NEW YORK SURGICAL SOCIETY.

Stated Meeting, January 23, 1895.

The President, ROBERT ABBE, M.D., in the Chair.

CASE OF CHARCOT'S JOINT-DISEASE.

DR. F. KAMMERER presented a man, aged forty years, with the following history: Family history negative. No evidence of syphilis. Sixteen months previously had suffered a severe contusion of his left knee, which remained red, painful, and somewhat swollen until one year ago, when he slipped off from the wheel of a coach, striking the same knee on the iron tire. The knee at once became immensely swollen, red, and painful. After both injuries to the joint the patient was able to get up and walk, especially after the first.

Under treatment the swelling continued to subside, and the pain disappeared in a few weeks. Since then the condition of the knee has remained stationary, the latter neither increasing nor diminishing in size, and pain has entirely disappeared. Can walk on his leg, but does not feel steady; the knee "seems to give way." On November 17, 1894, patient fell and broke his left leg near the ankle, where union of the bones occurred without any delay, however.

At present the knee is considerably enlarged; the swelling is especially marked on the front and inner side, less on the outer side of the knee. The swelling is hard, osseous, probably connected with the internal tuberosity of the tibia and with the patella, which it is impossible to locate definitely.

The joint is absolutely painless; motion is free. The leg can be voluntarily flexed to nearly a right angle; extension is complete. Passive abduction and adduction of about thirty degrees is possible with the limb in complete extension.

The patient has noticed no difficulty in walking in the dark. His gait is ataxic. The body sways considerably when patient stands

with eyes closed and feet together. There is complete loss of knee-jerk. Pupils do not react to light (Argyle-Robertson). Complains of no shooting pains. No crises. No optic neuritis.

There is a shortening amounting to an inch and a half, due in part to the fracture and in part perhaps to disappearance of the articular surfaces of the knee-joint. Dr. Kammerer had no doubt but what the case was one of arthropathy in connection with locomotor ataxia. He remembered that five or six years ago Dr. Willy Meyer had resected the knee in a case of this kind, but he could not recall the ultimate result. In the present case the point of motion in the joint was above the tumor, the latter moving with the tibia. It was difficult to make out the patella.

DR. ROBERT ABBE remarked that osteophytes were common in the Charcot joint, but in this case they were unusual in extent, and seemed to be the patella spread out like a mushroom. There was no indication for resection at present, but he saw no reason, should it be required later, why the resected ends should not unite just as did fractured long bones in locomotor ataxia. At any rate that argument had been advanced in favor of resection, and personally he did not think locomotor ataxia was a contra-indication to operative interference.

DR. W. B. COLEY said he had seen Dr. Meyer's case within a week or two. Bony union had not taken place. There was fairly good action in the leg.

THE OPERATIVE TREATMENT OF HERNIA, WITH REPORT OF TWO HUNDRED CASES.

DR. W. B. COLEY read the paper on the above subject. (See page 389.)

DR. C. K. BRIDDON remarked that he thought Dr. Coley ought to be proud of his results in the operative treatment of hernia. He had not been aware that it was possible for them to be so good. He had himself operated only a few times by Bassini's method, but this small experience had led him to regard it as far superior to other methods.

Regarding hernia of the funis, he also had seen one case and one only. It was a long time ago. The child when a few days old was brought to the hospital with a hernial tumor at the umbilicus as large as his fist, and curiosity, he might say, led him to cut into it and attempt to reduce it, but the intestines were found so matted

together that it was almost impossible to separate them, and the reduction was only effected by enlarging the hernial aperture. The child died within two or three days.

DR. A. G. GERSTER had performed Bassini's operation twenty-seven times, and, although a sufficiently long period had not elapsed since the first operation, a little over two years ago, to justify drawing conclusions, yet he was convinced that the results would prove as good as, if not better than, those obtained from Kocher's method, which he had performed for about two years previously, or from Macewen's, which he had practised for five or six years before that. He might say, however, that he had obtained good results from all of these methods in favorable cases, but there were some cases in which all methods would fail. He believed Bassini's was based on a solid foundation, and that it would give better results in general than others which he had hitherto practised.

Regarding suture material, he had used silk, which he had found easy to handle and followed by good healing. It was not absorbable like kangaroo tendon, but he thought that was an advantage, since in his opinion the sutures aided considerably in resisting the internal pressure against that part of the walls.

He had been operating upon children for hernia a number of years. Indeed, his first operation upon a small child dated back as long ago as fourteen years, and he had operated upon eight or nine cases since. There had been no relapses. If all radical operations were done at that early date, all cases of hernia would be cured, but to maintain asepsis in children was rather difficult.

Lately, however, he had employed an expedient which had proved very useful. Iodoform gauze was placed over the wound and then painted with collodion, and over this were placed two or three layers of rather stout rubber tissue, which was made to adhere to the skin by painting with chloroform. Even urine flowing over it did not soak through and contaminate the wound.

DR. F. KAMMERER had used Bassini's method exclusively the past three years, had operated upon about fifty cases, and in none of the few which had continued under observation had there been recurrence. He had had some recurrences from methods used previously,—Macewen's and McBurney's,—but also some permanent cures. He had invariably used silk, but the arguments which Dr. Coley had brought forward would lead him to try kangaroo tendon. Although he had been most careful, sterilizing the suture material im-

mediately before operation, yet suppuration had followed the use of silk in some cases, and in some instances fistulous tracts had formed after primary union seemed to have been assured. Owing to the stiffness of silver wire, and especially silkworm, he thought these materials were not adapted for buried suture. He had been astonished to hear that Dr. Coley had never seen fistula produced by kangaroo tendon, for it certainly remained long enough, three months, according to the doctor's statement, to produce such a result as well as any other suture material which now and then was not entirely aseptic.

The speaker could not quite agree with Dr. Gerster regarding the value of the dressing which the latter had recommended. In his opinion the abdomen ought to be given more support than was guaranteed by a superficial dressing simply attached to the skin in the immediate vicinity of the wound.

DR. BRIDDON remarked with regard to silver wire, that he had used it in several cases of ventral hernia, always with satisfaction. He was not aware that protrusion had taken place in any of the cases, and the sutures had never caused any trouble. On examining the wound after all plastic material had become absorbed, one could hardly feel the sutures. He placed them very close together. The same result was true in his experience with silkworm gut. He could not understand what advantages kangaroo tendon possessed over silkworm gut for buried sutures. One could be made as aseptic as the other, and in many cases non-absorption was a decided advantage. He would, however, try kangaroo tendon.

DR. ROBERT ABBE thought Dr. Coley's mortality record most remarkable,—only one death in 200 cases, and that due to pneumonia, practically reducing it to *nil*. In this regard his own experience had not been so favorable, but it covered a period during which various methods had been employed, and when aseptic work had not been as perfect as to-day. He had probably operated 175 or 200 times, the number of cases when he had last looked over his records having been 150. He had done Bassini's operation only a few times. He still liked Macewen's, and believed that with the use of kangaroo tendon it would give as good results as Bassini's. Heretofore it had been faulty because performed with heavy catgut, which certainly was not an enduring suture. The kangaroo tendon was very stable, it could be tied very tightly, it buried readily, and gave perfect coaptation,—facts which were necessary to successful operative treatment.

DR. COLEY said he had admitted in his paper that silk could be buried without causing any trouble as a rule, but in a certain number of cases it did cause sinuses. The records of the cases observed at the Hospital for Ruptured and Crippled was sufficient proof of this.

Regarding the dressing employed by Dr. Gerster, he thought it objectionable in that it did not exert any pressure over the wound. He was himself particular about putting on a spica dressing, which exerted firm pressure. There was less danger under such circumstances of accumulations of blood and serum, which would invite suppuration. In six cases complicated by Pott's disease, also in the five cases of strangulated hernia in infants under two years, the dressings were constantly soiled by the urine, yet there was primary union in every case.

Dr. Coley had had no case of sinus following the use of kangaroo tendon. Suppuration had occurred in seven instances, but it was during immediate wound-healing, and not as a sinus developing some time after operation, as was the case with silk. He did not agree with Dr. Briddon, that it was necessary for the suture to remain two or three years. If one obtained primary union, two or three months would do just as well. Every strain put upon the abdomen must cause tension, and the silk or silver wire, if used as suture material, would cut through the tissues, until such tension was overcome.

HYSTERECTOMY FOR UTERINE FIBROIDS: TWO SPECIMENS.

DR. CHARLES K. BRIDDON presented two specimens of uterine myofibromata removed through an abdominal incision. In each case total ablation of the uterus was done, and vaginal drainage with iodoform gauze was used. A smooth recovery followed in each instance.

SARCOMA OF CAPUT COLI: RESECTION.

DR. ROBERT ABBE presented an apparently sarcomatous mass, including the caput coli, appendix, and part of the ascending colon, —altogether about a foot of the intestine,—removed from a boy six years of age. There had not been time to examine the specimen microscopically in order to decide whether it was sarcomatous or carcinomatous. Up to a week ago the boy was not known to be ill.

Then, after coasting, he began to suffer apparently from colic, and the family physician was sent for. On examination a large mass was felt in the abdomen. The patient was seen by Drs. Jacobi, McBurney, Packard, Tucker, and Abbe, and the mass in the right loin was diagnosed as sarcoma, probably of the kidney. Dr. Abbe operated, and found the neoplasm involved the intestine and glands, as already stated; end-to-end anastomosis was established by Murphy's button. The boy succumbed to the late shock of the operation thirty-six hours later. Further examination showed the most intimate relation of the tumor mass with the posterior wall of the caput coli.

COLLAPSING DERMOID CYST.

DR. ABBE presented a second specimen, consisting of a dermoid cyst. The patient had been bedridden since her last confinement, two years ago, at which time she had pelvic peritonitis. There had been no apparent cause of her continued illness. After dissecting up the pelvic viscera, Dr. Abbe finally discovered a collapsed cyst in the hollow of the sacrum, about the size of an orange, its lumen connected with a loop of small intestine. It was a dermoid of the ovary, and contained teeth and hair. Evidently the opening into the intestine had occurred during confinement two years before. During the day and while walking about, the woman has constantly noticed a swelling in the lower part of the abdomen, which disappeared when she lay down at night, showing that in the erect posture the intestine emptied its contents into the tumor, while in the recumbent posture the tumor emptied itself into the intestine. The opening into the gut, which was large enough to admit the end of one's finger, was closed, and the woman made an uneventful recovery.

In connection with this case Dr. Abbe referred to another seen ten days ago. There had developed suddenly peritonitis with a tumor the size of the pregnant uterus at the fourth or fifth month. He saw the patient on the fourth day, at which time the tumor had entirely flattened so that it could not be recognized. The woman suffered from a degree of prostration entirely unaccountable in the absence of fever. The appearance was leaden, being more like that from absorption after hæmorrhage than from sepsis. With the consent of Dr. Jacobus, with whom he had seen the woman, she was removed to the hospital, where Dr. Abbe operated and removed a large ovarian dermoid, the size of a cocanut, which had become strangulated, gangrenous, and had ruptured. There was universal peritonitis, with

infection and lymph adhesion. As soon as he opened the abdomen the oily-looking contents of the ruptured dermoid rose to the surface. He removed the tumor with ease, thoroughly flushed the cavity with saline solution, and the patient made a good recovery, without rise of temperature. While there had been plastic lymph everywhere over the intestines, the peritonitis had not been of a septic nature, which might account for the absence of temperature throughout the case.

DR. GERSTER wished to put on record a case of dermoid which had ruptured into the intestine. The patient, a widow, forty-eight years of age, had come under his care a year ago last spring. She had long suffered from some pelvic trouble, and had been carefully examined by gynecologists. A mass could be felt distinctly through the vagina, occupying the left side of the small pelvis, evidently attached to the uterus. Under anæsthesia fluctuation was distinct, from which it was inferred that there was more than a fibroid which had been recognized before. The size of the tumor varied, and sometimes it disappeared altogether. Before such times the patient suffered from an attack of fever, sometimes accompanied by chills, and a large quantity of pus would be evacuated by anus. It happened that the last gentleman who had examined her before him was Dr. Mundé, on which occasion the cyst was empty, and inasmuch as he could find nothing he declared her to be a well woman. In this opinion he was justified by the physical condition at that time. Still, she was not well, and finally Dr. Gerster proposed an exploratory incision. He found a dermoid which contained a ball of hair and some extremely offensive pus, the latter circumstance, he said, being due, of course, to the communication with the sigmoid flexure. The closure of the intestinal aperture did not prove as difficult as he had expected. Since some of the offensive material had escaped into the pelvic cavity, he did not dare close the abdomen, but introduced gauze-packing. The woman entirely recovered.

PROPERITONEAL HERNIA.

DR. F. W. MURRAY related the following case: A man entered his service last summer at the New York Hospital, with the history that three days before a right inguinal hernia suddenly appeared, and symptoms of strangulation soon followed. The family physician was sent for, gave chloroform, and said that he had reduced the hernia, but the patient asserted that he was not relieved. Pain and vomiting continued, and on the following day he visited a truss company,

where, under taxis, the hernia was apparently reduced and a truss applied. No relief followed, and the next day he was brought to the hospital. The patient presented all the symptoms of intestinal obstruction and was in a condition of great prostration. The abdomen was distended, tympanitic, and painful on pressure. There was no fulness or swelling in the inguinal region, the inguinal canal was empty, and on deep pressure with the finger no tumor could be felt on coughing. Under ether and in Trendelenburg's position the abdomen was opened through a median incision. A coil of distended small intestine presented, and, on following it downward, it was found constricted at the right internal abdominal ring. There were no evidences of gangrene of the gut at this point and no adhesions. The gut above the ring was red and swollen, while the segment below the point of constriction was pale and collapsed. By means of gentle traction exerted on the lower segment the hernia was easily reduced. The strangulated loop of gut was about four inches long, deeply congested, and in fair condition. On introducing the finger into the ring it passed upward into a cavity lying between the peritoneum and abdominal wall. Owing to the weak condition of the patient the abdominal wound was quickly closed, and all attempts at radical cure were deferred. Vomiting ceased, some gas passed by the bowel shortly afterwards, but the patient succumbed to shock six hours later. The case was evidently one of acquired properitoneal hernia due to rupture of the neck of the sac at the time taxis was employed at the truss company. The man's condition on admission to the hospital was far from promising, and the operation was performed with a faint hope of success. Had he been seen earlier and had he not fallen into the hands of the truss vender, the result might have been different.

DR. BRIDDON asked Dr. Murray whether he would operate again in this way if he were confronted with a similar case. Was it not safer, where one had a case of strangulated hernia which had been reduced *en bloc* with no alleviation of symptoms, to go down upon the canal through which the hernia had passed than to open the abdomen and draw out the gut whose condition might be questionable? Would not the latter method expose the patient to the danger of infection? Of course, he said, it was much the easier method, and he could understand that it might be indicated in cases of double inguinal hernia where it was not known on which side the difficulty lay.

DR. GERSTER believed this question had been discussed within two years in medical literature. He remembered especially that Lawson Tait had advanced the idea that the proper way of doing herniotomy was through the abdominal cavity, just as another gynaecologist had contended that the proper way to remove a diseased kidney was through the abdominal cavity. Dr. Gerster regarded this as a one-sided statement of the case. In his opinion the approach should be from the direction which appeared for the individual case the most rational one. As to the point just raised by Dr. Briddon, Neuber had published two cases in which he was compelled to open the abdomen, because, although convinced that there was hernial strangulation, he could not tell on which side. Dr. Gerster thought that under such circumstances it was best to make a simple abdominal incision in order to ascertain the exact condition of things, but after learning this the hernia should be approached in the usual way. This would be safer than to withdraw the gangrenous or partially gangrenous gut into the peritoneal cavity, although it could not be denied that this could be done with comparative safety against infection by walling off the rest of the cavity with gauze.

DR. KAMMERER did not believe that the plan of opening the abdominal cavity some distance from an incarcerated and gangrenous hernia was to be condemned in each and every case. He could understand the propriety of introducing some gauze intraperitoneally about the constricting ring to prevent an infection of the peritoneal cavity before cutting through the constriction. Even in relieving the latter by dissection from without, it can occur that a gangrenous furrow in the intestine will give way at that very moment, and infectious material will escape into the peritoneal cavity, if some means have not been taken to arrest it. This he considered not merely a theoretical speculation.

DR. MURRAY said that in the event of a similar case his treatment would be the same as in the case narrated. When symptoms of strangulation persist after the reduction of a hernia the cause is to be found in one of several conditions. Through an abdominal incision not only can a quick and thorough examination of the internal ring be made, but also the particular cause of strangulation can be readily ascertained. For this reason he preferred abdominal incision to cutting down through the inguinal canal. In the case narrated the hernia was reduced by traction from within, as there were no signs of gangrene and the gut was not tightly constricted. Had the intestine

appeared gangrenous or even doubtful, it could have been approached from without through the inguinal canal. He agreed with Dr. Gerster that ordinarily it might be best to make the approach from without, but in this case traction from within was safe for the reasons already given. The patient did not die of infection but of shock, and in the opinion of the narrator the treatment pursued was in accord with sound surgical principles.

DR. KAMMERER believed it was Mikulicz who had advised laparotomy in the first instance where one suspected gangrene, as where the strangulation had existed a number of days. On finding the loop of gut, tampon all round, then divide the constricting ring. Mikulicz considered it dangerous to incise the constricting ring from the direction of the hernia where there was gangrene. Dr. Kammerer was also of this opinion.

DR. GERSTER said he had advocated, practised, and described this method ten years ago. There was nothing new in Mikulicz's suggestion. The entire region above and below the constricting ring should be freely exposed by dividing the tissues from without inward, not by dividing from within outward. The peritoneal cavity should be freely opened above the hernia, this being, as all would admit, the only safe procedure. But that was different from performing laparotomy for the cure of hernia, as Mr. Tait advised.

Stated Meeting, February 13, 1895.

The President, ROBERT ABBE, M.D., in the Chair.

SOME MOOT POINTS IN THE TREATMENT OF APPENDICITIS.

DR. L. A. STIMSON said there were some points in the treatment of appendicitis which were still under discussion, and it was in connection with one or two of these that he presented a patient and two specimens. The principal point concerned the behavior of the appendix after a suppurative process had taken place, and the resulting abscess had been evacuated. The question arose from time to time whether it was advisable in such cases to make any search for the appendix, owing to the risk of breaking down adhesions which protected

the abscess from the general peritoneal cavity; whether it was not best to leave the appendix and trust to its destruction by the process which had given rise to the abscess.

The man presented was thirty-three years of age, was admitted to the New York Hospital January 3, 1895, with the history of having been operated upon during an attack of appendicitis, eight months previously. He bore the scar of that operation. It was stated to him at the time that it was a suppurative case, that pus was evacuated, and the appendix was gangrenous. The operation was done in one of the hospitals of the city. The wound healed fairly well, but was followed by a distinct hernia in the line of the scar. Five months subsequently, last October, he had another similar attack, general tenderness over the abdomen, some distention, vomiting, fever. He remained abed four weeks, then passed a large amount of pus and blood per rectum. Subsequent rapid improvement and complete recovery in two weeks. He then remained perfectly well until a week before admission to the New York Hospital, when he had a less severe attack, and remained abed four days. He then sought admission to the hospital for complete relief from recurrence, and also relief from the hernia.

The scar was in the usual situation, and in its central portion was a protrusion, apparently of omentum. Dr. Stimson made an incision to one side of the scar, opened the hernial sac, found it occupied by omentum which was firmly adherent at many points. He finally made his way into the abdominal cavity, and was surprised to find the appendix in plain view, without any adhesions, or at least with only very slight adhesions. It was long and thick, and lay directly beneath the scar, practically entirely free within the abdominal cavity, and this notwithstanding the history of two suppurative attacks of appendicitis. He excised the appendix, and could find no indication of a perforative process except at one point, near its base, where it was very thin.

He also excised the scar, separated the abdominal planes, and brought them together as if it were a fresh case, without any hernial protrusion. The man now has a firm cicatrix.

The point to which he wished especially to direct attention was the fact that this man, after two attacks of suppurative appendicitis (one certainly suppurative, the other presumably so), had a large appendix lying free within the abdominal cavity, and just as capable of giving rise to all the consequences of appendicitis as though he had had no previous attacks. In other words, his two attacks had done nothing to protect him from recurrences.

About a week later another patient had come to him with a somewhat similar history, a history of having been operated upon for suppurative appendicitis three or four years ago, with prompt recovery. He remained well up to the time of the recent attack, which brought him to the hospital. He was suffering from a moderate amount of abdominal pain and distention. A tumor was felt in the hypogastrium and through the rectum, but because of the abdominal tension its size and relations could not be satisfactorily determined until the patient was put under ether. Previously he had been inclined to regard it as a neoplasm. Under ether the mass felt much smaller and was more movable. He then suspected suppurative disease, probably originating about the appendix. Median incision; on making his way down slowly through the mass of adherent intestines he came upon pus, which was evacuated through a small opening. After the pus had ceased to flow, he enlarged the opening, and in the abscess cavity found a small fecal concretion. On further careful cleansing of the abscess cavity, he saw at its bottom a small red mass which looked very much like inflamed intestinal mucosa. On pressure pus welled out of it. It proved to be the appendix completely separated from the cæcum and imbedded in adhesions in the true pelvis. He pulled it out, and now showed it to the Society. The patient made a good recovery.

In view of experience like this, Dr. Stimson thought we should not be in haste to be satisfied with the simple evacuation of an abscess which had formed about the appendix, but that search should be prosecuted with a view of removing the appendix provided it were not attended by serious obstacles and dangers.

DR. JOSEPH D. BRYANT said he had seen a case of appendicitis about three weeks ago the like of which he had never seen nor heard before. The patient had first entered Bellevue Hospital last summer with a large abscess in the right iliac region, was operated upon by Dr. Alexander, who failed, he was informed, to find the appendix. About three weeks ago the man came under Dr. Bryant's observation, having a gaping opening in the abdominal wall at the site of the incision about two inches long; its edges were indurated, and at the middle there protruded above the surface a body about the size of the end of his little finger. It was freely movable from side to side, was attached to the deeper tissues, and was suspected to be the appendix. Two weeks ago he dissected it out and found that it was the appendix. Another interesting fact in connection with the case was that

Professor Dunham, at his request, made a very careful examination of the specimen for evidence of previous perforation; the history of abscess had been very distinct, and many ounces of pus had been removed by Dr. Alexander. But Dr. Dunham was unable to find any evidence whatever of perforation.

DR. FOWLER had met with two cases which were quite corroborative of the dictum which he thought should now go forth, that the appendix should be removed whenever it could be found, provided the surroundings were such as to justify breaking down adhesions in searching for it. Last summer a young farmer at Bayshore was taken ill with appendicitis, and Dr. Coe, who happened to be spending his vacation in the neighborhood, saw him about the ninth day, evacuated a considerable amount of offensive pus, and made a reasonable search for the appendix, but did not find it. The abscess cavity was drained, the wound was left open to granulate, and the patient made a good recovery. About three weeks ago the man entered a hospital in Brooklyn, with a large abscess in the right iliac region. Upon incision the appendix was found behind the cæcum, extending upward towards the liver, a distance of about four inches and a half. This was supposed to be the end of it, but on carefully lifting it out of its adhesions it was found to be reflected upon itself, and to measure nine inches in length. The appendix was considerably infiltrated, but showed no evidence of perforation, although this large abscess was present. An interesting question was, whether the infection had remained over from the former attack, or had he a second attack of appendicitis. The former possibility seemed to be supported by the fact that the patient had not suffered from the acute symptoms at the second attack, which had been present at the first; also by an experience with another case, as follows: He had opened a large abscess, removed the appendix, partially closed the wound, and drained the deeper pelvis. Three months afterwards the patient presented herself again with what seemed to be a right pyosalpinx. Laparotomy, however, revealed an abscess behind the uterus, there being no involvement of tubes or ovaries. The abscess seemed to have been the result of the first infection, some of the infectious matter having been retained, and remained latent until such a time as lowering of the vitality of the tissues in the neighborhood gave opportunity for suppuration.

A case somewhat similar to the first was that of a patient on whom he had operated for appendicitis five or six years ago with-

out finding the appendix. Two and a half years afterwards another attack occurred, there was rapid suppurative peritonitis, and the patient died.

He was sometimes asked by life-insurance people whether a person who had had an attack of appendicitis, the formation and evacuation of an abscess, and healing of the wound by granulation, the appendix not having been removed, was a good risk. At one time he had believed that the amount of inflammatory and suppurative process involved in the formation of the abscess was sufficient to destroy the appendix; but he had since changed his mind, and believed that if possible the appendix should be removed, and if it were not the patient should be informed of his danger and of the necessity of having the appendix removed between attacks, should there be recurrences.

DR. RUSHMORE thought there was something to be said on the other side of the question. Would it not be better to do as Dr. Stimson had done in this case, search for the appendix on a subsequent occasion? At the time of the occurrence of the first abscess the adhesions were easily broken, and a very thorough search or even a moderate search for the appendix would be likely to break up the adhesions and give rise to the very thing which we operated to avoid. But by simply opening and cleansing the abscess, and, making a reasonable search for the appendix and not finding it, packing the wound, the chances were largely in favor of the patient getting well. The mortality from opening an appendicitis abscess without further operative procedure was small. It was not certain that another attack would occur, but, if it should, the adhesions would be older, the peritoneal cavity would be walled off better, and the appendix could be sought for with greater safety.

Dr. Rushmore referred to two cases having some bearing on the discussion. In one he had opened a large abscess, had seen the appendix, which was gangrenous, and removed it with the finger. A year afterwards Dr. Mynter, of Buffalo, wrote him that the patient had come under his observation with all the symptoms of appendicitis, and inquired what he had done. He learned afterwards from Dr. Mynter that the attack had subsided and the patient had no further trouble. In another case the abscess discharged spontaneously. The patient went to Philadelphia, where Dr. Ashhurst operated upon him, and it was said an opening was found in the appendix.

The point which Dr. Rushmore wished to make was that in many

cases of suppurative appendicitis it would be safer not to make an extended search for the appendix until a second attack.

FRACTURE OF THE PATELLA TREATED BY MASSAGE.

DR. HOWARD LILIENTHAL said, in presenting a patient, a woman about twenty-eight years of age, that he did so because she had had a fracture of the patella treated in rather an unusual way,—that is, by massage. On February 20, a year ago, she was sitting in a window cleaning the glass, when she fell backward a distance of a little over six feet, sustaining a fracture of the left patella and also an injury of the right wrist and of the scalp. He saw her after about six hours, when there was enormous effusion into the knee, preventing exact diagnosis. He put on an Esmarch-Martin rubber bandage from the foot to above the knee, and on removing it half an hour afterwards, the swelling had been so far reduced that he could easily make out transverse fracture of the patella. There was little separation, and by drawing upon the upper fragment it could be approximated to the lower and crepitus elicited. A posterior splint was applied. Next day she was transferred to hospital, and he began treatment by massage of the entire limb, particular attention being paid the parts about the knee and the quadriceps. During this time a posterior splint was worn and a figure-of-eight bandage, the dressings being removed only while practising massage. The massage was continued ten minutes or longer, and was repeated twice a day, the fragments being held in apposition by an assistant. He had learned of the method from Kœnig's "Surgery," fifth edition. The patient was allowed to get up on the tenth day, to walk on the eleventh, still wearing the bandage. Was discharged at the end of the fourth week and allowed to go up-stairs on the fortieth day, massage having been continued during the entire six weeks. The result had been so perfect that one would not recognize there had been fracture of the patella unless the knee were compared with its fellow. The left patella, however, was longer than the right, although it was not easy to feel a furrow between the fragments.

OPERATIVE TREATMENT OF FRACTURES OF THE PATELLA.

DR. GEORGE RYERSON FOWLER read the paper of the evening, entitled "A New Operative Method in Fracture of the Patella." (See page 621.)

DR. STIMSON said he would limit his remarks to two or more

of the many points raised in the paper of Dr. Fowler. In the first place, while Dr. Fowler's patient was a striking example of the ill results of non-operative treatment, it should be remembered that such results were extremely rare. As a rule, the non-operative treatment of fracture of the patella gave very good functional results, although bony union did not occur except possibly in very rare instances. The pathological conditions in fracture of the patella differed widely in different cases, and now and then the fragments were so far separated that even a good functional result was not obtained. He did not think one could predict a probable good or bad result based upon the presence or absence of a fringe of tissue between the fragments as determined by crepitus. He had exposed a good many fractured patellæ by incision after having elicited crepitus, and in the vast majority he had found a fringe of tissue between the fragments.

In most the fringe is small, either a narrow strip running all across the anterior edge of one fragment or a broader one running partly across. In one he had seen a long ravelled strip of fascia, three or four inches long, folded between the fragments. In some cases the torn fragment was so tilted that a good result would have been impossible without operative treatment. Nevertheless, the great majority of patients obtained a good functional result by the non-operative method of treatment, as had been demonstrated before this Society many times the past ten years. The case of Dr. Lilienthal was the most recent. He recalled the case of a patient in whom he had found a distance of four inches between two fragments of the patella, and when the patient was asked whether he knew there was anything the matter with it he answered no. The fracture had occurred four years before. Of course, Dr. Stimson said, he had been depending upon the other knee, and, therefore, had not notably felt the inconvenience of the separation between the fragments on the affected side.

Regarding the operation, Dr. Stimson agreed fully with the reader as to the inadvisability of using wire in suturing the patella. He thought the practice had been based upon an erroneous opinion as to the strength required to hold the fragments together. He happened to have a hospital service in which fracture of the patella was very common, and he had reported cases to the Society from time to time in which various methods had been resorted to, but during the last four years he had been employing an operative procedure which he had not yet described.

In looking over the reports of the Chambers Street Hospital it appeared that he had operated by this method in thirty-six cases, to which number about a dozen more cases might be added. The thirty-six cases had given him uniformly good results. Of course, he had not seen all of them later than two months after the treatment, but all had been able by that time to bend the knee to a right angle and to walk. The method employed was a modification of one previously described, adding facility and other advantages. A longitudinal incision was made along the centre of the limb from just above the patella to just below it, being carried down to the rupture in the soft parts in front of the bone, so that the blood could be evacuated. The fringe between the bone was lifted out and cut off where necessary. The fragments were brought together and held in apposition by silk suture passed on a curved needle through the ligamentum patellæ close to the lower end of the patella and through the tendon of the quadriceps above so as to make a double loop, catching the quadriceps above and the ligamentum patellæ below. The loop was then drawn taut and tied, lying, not in the joint, but in front of the patella. The operation could be carried out without touching the tissues with the fingers, which were the chief source of infection in operations. The skin was closed by continuous silk suture; no drain; posterior splint and dressing. These were removed after a week, the stitches were taken out, and the limb was put up in plaster. The patient was sent home after two or three days, and the splint was removed a month after the injury. It was then worn during the day for another month and left off at night.

During the last few months he had occasionally modified this procedure by substituting for the mediate silk suture simple catgut suture of the fibro-periosteal layer on the front of the bones. The result had been satisfactory. One man was carried through a violent attack of delirium tremens the first week, the fragments were not pulled apart, but the union was not quite as close as in some other cases, and slight mobility could be detected between the fragments at the end of a month, which was not true of the other cases. The separation of the fragments in fracture of the patella was not due, he said, to contraction of the quadriceps, but to effusion in the joint. This might account for the benefit derived from massage as practised so extensively by the Dutch and a few German and French surgeons. In one case, while he was applying the suture under cocaine, the man struggled violently, even lifting the leg, yet the fragments did not

separate more than a quarter of an inch. In other words, a violent pull upon the quadriceps had not separated the broken patella more than a quarter of an inch. If, then, they were not separated by the effusion, they were not likely to be pulled apart by the quadriceps. The elastic bandage will often remove the effusion rapidly, and he had got good results in a few cases solely by its use and immobilization of the limb; and at one time he was disposed to think this would prove a good way of treating the average case, but he found that in one or two instances it did not do well,—because, he supposed, there was interposition of too much tissue,—and he abandoned it. It seemed that in Dr. Lilienthal's case the effusion disappeared promptly after application of the bandage, which led him to think that massage had had little to do with the result except by promoting absorption of blood and favoring repair.

To sum up, he did not think we ought to recommend operative treatment, no matter how safe, for general use. Our success did not mean that we could do operations and others could not. It meant that here we were working in hospitals, with trained assistants and nurses, and people who were in the habit of taking all precautions necessary in preparing for operation. Consequently we could bring to bear much greater security than men could do who were operating less frequently and out of hospitals. They could not control their assistants and the many conditions so necessary to success. He did not think we should recommend for general acceptance an operation attended by such risks as Dr. Fowler had pointed out, when non-operative interference gave such good results.

Finally, as to the operation itself, of course he believed in the one he was doing himself, otherwise he would not be performing it. Wire was faulty, and was unnecessary because experience had taught him that the fragments could be held together without much strength. Catgut passed through the fibrous tissue would answer in some cases. The presence of wire in the bone was itself opposed to prompt and uneventful union of the fragments. It promoted absorption of the bone and thus weakened it. If an operation were done, it should be on the line of minimum interference.

DR. BRYANT said that with the main propositions of the paper of Dr. Fowler he was quite in accord. The quadriceps extensor could be divided, for the purposes of discussion, into three portions: First, that of the rectus, which is inserted into the upper portion of the patella; second, by two divisions, one on the outer and the other on

the inner side, which respectively pass at either side of the patella, and are continuous with the fascia of the leg and also with the periosteum of the tibia. It could be easily demonstrated on the cadaver, if the first portion, the rectus portion, were divided, that it required but little force to extend the leg. If in addition to this the inner portions of the aponeurotic portions were divided, then the leg could be extended but with some difficulty. In fact he had on several occasions not only divided the insertion of the rectus, but had carried the incision to either side so as to leave scarcely a finger's breadth of the aponeurotic structure at these situations, and still the limbs could be extended, although with much difficulty. Not long ago he had seen a case of fracture of the patella which illustrated the importance of the outer portion of the aponeurotic structure. The patella was fractured, the inner portion of the aponeurotic structure was completely ruptured, and only about a finger's breadth of the outer portion was intact, evidently, however, overstretched, as the fragments of the patella corresponding to that portion were widely separated. Still the man could walk, and could use the limb for ordinary purposes. His only fear was that in getting down upon his knee to oil his engine (he was an engineer) he might rise incautiously and rupture the remaining structures.

It seemed to Dr. Bryant that much of the tendency to separation depended upon the degree of extension of the injury through the lateral aponeurotic structure. If this structure retained its integrity, there would be less difficulty in maintaining the fragments in apposition and overcoming retraction of the muscles on the anterior surface of the thigh. He had noticed this fact at the times when he made a free incision for the purpose of wiring the patella, a procedure of which he did not now approve, especially as a routine practice. In the cases which had come under his observation the fibrous tissue had interfered less with approximation of the fragments than had the intervening blood-clots. One case in particular was recalled in which the presence of firm clots between the fragments made any crepitus impossible.

In general Dr. Bryant concurred in what Dr. Stimson had said. He regarded it, not as a question of what the hospital surgeon could do under the most favorable circumstances, but rather what should be recommended as the best method of treating fracture of the patella by the general profession which had not such special opportunities. He would regard it as extremely mischievous to put forth the state-

ment that wiring of the patella should be resorted to as the first procedure. He had wired only twelve patellæ, and had had but one unfortunate result. It was in a case of delirium tremens. It seemed to him that every case of fracture of the patella must be treated more or less upon its own particular basis. One must consider the patient's willingness or unwillingness to submit to any operative procedure, the condition of the opposite limb, and many other facts. He appreciated the fact that one objection to the non-operative treatment was that the patient had to be confined to bed a certain time. That was a custom which he was unwilling to admit was necessary. During the last four years he has treated six cases in which for one reason or another he did not wish to confine the patient in bed, by fixation and extension limited to the limb itself, allowing the patients to go about the ward on crutches. In one case, in experimenting as to the amount of traction the patient would stand, he applied forty pounds, and no objection was made. The results in these cases were equal to those obtained in the recumbent position by non-operative methods.

As to the strength required to hold the fragments in apposition, he remembered very well that in the first case in which he employed wire he used a piece of large size, but found that almost no force whatever was required for this purpose. Since then he had used the smallest wire he could find. He made a vertical incision, and only sufficient to put in one small piece of wire quite superficially. In two or three instances he had sewn the parts together and had had no occasion to find fault with the result. Finally, he had found intervention of blood-clot interfere more with crepitus than fibrous tissue.

DR. ABBE expressed admiration for the simplicity of the operative method suggested by Dr. Fowler, and under the best surroundings it might be an ideal operation, accomplishing the best results. It did not seem to him, however, that the time had arrived when even in New York we could be absolutely sure of the non-infective character of our surgical operations in every particular. To have one infected joint with sacrifice of the limb in a series of a dozen or thirty cases of fracture of the patella would be more disastrous than the results obtained by the old method of treatment which might be attended by a slight disability of the limb. In view, then, of the fact that there was a large proportion of almost perfect functional knees following the non-operative treatment, it seemed to him that was still the safest method to endorse. Only recently he had treated two private cases by the old method with results so perfect that he

was glad not to have taken the risk of opening the joints, although some years ago, in accord with the custom, he had wired a good many fractured patellæ.

DR. FOWLER was inclined to think that in Dr. Lilienthal's case the fracture was due to direct violence, which would account for the very good result without operative treatment. Ability to elicit crepitus, which was true of this case soon after applying the Martin bandage, would be regarded by Dr. Fowler as an indication to refrain from operative interference, and to employ just such measures as were employed by Dr. Lilienthal. As to good results following non-operative treatment of fractures of the patella by indirect violence, he must confess that comparatively few had come under his observation. The length of the ligamentous union did not seem to govern the amount of the disability. It was rather the extent of the injury done the quadriceps extensor muscle, particularly the rectus femoris. Here was the explanation of the advantage of massage.

While he could not help agree with Drs. Stimson, Bryant, and Abbe, that the question had not been fully settled as to what cases of fracture called for operative treatment, and that it would be manifestly wrong for the New York Surgical Society to advocate operative interference in all cases, yet he thought the subject was in the position of abdominal surgery some years ago, and we were working towards an ideal result which we hoped to reach with the least damage done our patients between the time when our observations commenced and the moment when the millennium should be reached. While discussions of this kind could scarcely definitely settle the question, yet they all tended to bring out experience and to stimulate more active surgical thought. It was with this in view, more than with the desire to bring forward an operative procedure which might or might not in some respects be desirable, that he had brought the matter forward. It had been a source of pleasure to him, and had more than repaid him for his pains, to have listened to the experience of men who had had such large opportunity to observe fracture of the patella.

In the non-operative treatment of fracture of the patella, the apparatus spoken of by Dr. Bryant had been used by him with most flattering success so far as obtaining short ligamentous union was concerned. But in no case of indubitable ligamentous union had he succeeded in obtaining a perfect functional result as shown by the ability of the patient to stand on the affected limb and attempt to hop.

DR. LILIENTHAL mentioned some of the facts in his case which pointed clearly to fracture by indirect violence instead of direct violence. There was no contusion. As to rapid disappearance of the effusion under the bandage, he had not stated that it had entirely disappeared in half an hour, but only to the extent of permitting of a diagnosis and to feel crepitus. He did not regard massage as at all magical in its effects, and agreed with the explanation given by Dr. Stimson of its beneficial influence. It was the same, he thought, as that offered by the Dutch surgeons.

CYSTINE CALCULUS.

DR. ABBE showed a large, pure cystine calculus, weight 280 grains, removed by suprapubic operation from the bladder of a boy aged five years.

FREE ABDOMINAL DERMOID.

DR. ABBE also showed two dermoid tumors removed from one patient. One bore rare relations to the abdominal cavity, being situated high and attached only to the omentum,—not to the ovary nor to the intestine. It measured eight inches in diameter, contained bunches of hair, teeth, etc. The opposite ovary contained both mucous and dermoid cysts.